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ABSTRACT

This study found a statistically significant relationship between cognitive-behavioral therapy and improvements in African American middle school students' grade point averages, number of days absent, and number of days tardy. Subjects were 60 junior high school students. The results of a path analysis provided the rationale for conducting this study. Using a randomized pretest/posttest design, significant changes were found on these three things after students experienced cognitive-behavioral therapy. It is suggested that academic self-concept is the mediating variable between cognitive-behavioral therapy and academic achievement. (Contains 26 references.) (Author/SLD)

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ED 369 859

# COGNITIVE-BEHAVIORAL THERAPY: APPLICATIONS FOR AFRICAN-AMERICAN MIDDLE SCHOOL AT-RISK STUDENTS

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# COGNITIVE-BEHAVIORAL THERAPY: APPLICATIONS FOR AFRICAN-AMERICAN MIDDLE SCHOOL AT-RISK STUDENTS

**Abstract**

This study found a statistically significant relationship between cognitive-behavioral therapy and improvements on African-American middle school students' grade point averages, number of days absent, and number of days tardy. The results of a path analysis was the rationale for conducting this study. Using a randomized pretest/posttest design, significant changes were found on grade point averages, number of days absent, and number of days tardy after students experienced cognitive-behavioral therapy. It was suggested that academic self-concept is the mediating variable between cognitive-behavioral therapy and academic achievement.

# COGNITIVE-BEHAVIORAL THERAPY: APPLICATIONS FOR AFRICAN-AMERICAN MIDDLE SCHOOL AT-RISK STUDENTS

## INTRODUCTION AND BACKGROUND

Before conducting the current study, Sapp (1990a) assessed the psychoeducational predictors of achievement for 250 middle school students in grades six through eight. These students were measured on achievement by the *Wide Range Achievement Test-R* (WRAT-R), on self-esteem by the *Coopersmith Self-esteem Inventory* (SEI), on academic self-concept by the *Brookover Self-Concept of Academic Ability Scale* (Brookover), and on grade point averages by grades assigned.

Sapp's a prior hypothesis revealed the following statistically significant relationships. First, he found a significant relationship between the Brookover and SEI when used as predictors of reading, arithmetic, and spelling as measured on the WRAT-R (multivariate regression relationship). Second, by controlling the order of entry of predictors (Brookover and SEI) into a regression equation for predicting reading, arithmetic, and spelling standard scores, he found the Brookover was the best predictor (multiple regression relationship).

At the univariate level, Sapp hypothesized a priori and found a number of correlations at the .001 level of statistical significance. Significant relationships were

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found between grades and academic self-concept, between grades and the WRAT-R, between general self-esteem and academic self-concept, between academic self-concept and the WRAT-R, between academic self-concept and grades, and between the WRAT-R and grades.

We present a path analysis model for theoretical reasons and hypotheses testing, not for causal reasons. In essence, we are not arguing that one or more variables are causing changes on other variables. Our model only specified certain relationships that we tested using experimental methodology.

Path analysis is a special case of multivariate regression analysis in which the correlations of variables are expressed by graphs (Vogt, 1993, p. 167). Path coefficients show the relationships among a group of variables. Our path model is recursive, meaning that correlational relations move in the directions of the arrows. Pedhazur and Schmelkin (1991, pp. 695-723) have shown that path coefficients are standardized regression coefficients or beta weights. If we had established a nonrecursive model, this would indicate that variables have mutual influences on each other. For example, using the two variables of self-esteem and academic self-concept, a nonrecursive model would suggest that self-esteem influences academic self-concept and academic self-concept influences self-esteem.

Another reason for expressing the relationships in our path model as path coefficients is that these coefficients permit us to express the direct and indirect relationships between and among variables.

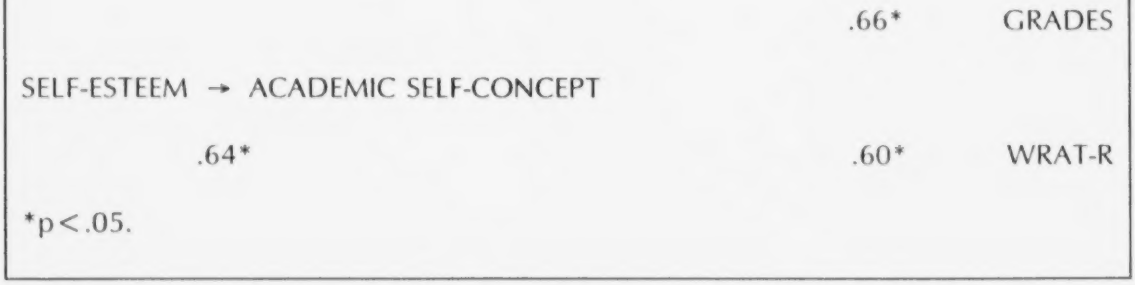
For example, the relationship between self-esteem and academic self-concept is .64, the relationship between academic self-concept and grades is .66, and the relationship between academic self-concept and the WRAT-R is .60. All of the aforementioned relationships are called direct effects or relations; *indirect* effects are found by multiplying path coefficients.

To illustrate, the indirect effect of self-esteem on grades is .64 (.66), or .42; the indirect effect of self-esteem on the WRAT-R is .64 (.60), or .38.

The following path analysis model was constructed using data and theory from the pilot study. Path coefficients were obtained using the SPSSX statistical package.

**PATH MODEL**

**THE RELATIONSHIP BETWEEN SELF-ESTEEM, ACADEMIC SELF-CONCEPT AND ACHIEVEMENT**




*p < .05.

What is the relationship between psychoeducational predictors of achievement for middle school at-risk students and cognitive-behavioral interventions? First,

psychoeducational predictors are those psychological and educational variables that correlate with achievement. A pilot study by Sapp (1990a) found two variables that correlated with the achievement of middle school at-risk students in which the majority of the students were African-American.

In sum, from the path model we found a direct relationship between academic self-concept and grades and a direct relationship between academic self-concept and the WRAT-R (Wide Range Achievement Test-Revised). The indirect relationship between self-esteem and grades was .42; between self-esteem and the WRAT-R, .38.

Sapp (1990a, 1990b) conceptualized academic self-concept along cognitive-behavioral dimensions for academically at-risk students. Sapp's studies suggested that increasing at-risk students' academic self-concept through cognitive-behavioral strategies interventions should correspondingly enhance achievement. This would be due to the fact that these students have difficulty cognitively visualizing academic achievements. Similarly, Sapp found academically at-risk students tend to reinforce negative and irrational self-statements in relationship to achievement. Sapp (1990a, 1990b) proposed cognitive-behavioral counseling as a method to help these students identify irrational cognition related to achievement and to replace it with rational cognition and positive self-statements.

What is cognitive-behavioral therapy? Cognitive-behavioral therapy is a form of therapy or counseling that blends techniques and strategies from both cognitive and behavioral (studies(?) psychology?) (Kendall, 1984). Corey (1991) and Corsini and

Wedding (1989) described five models of behavioral therapy. The first, Applied Behavioral Analysis, was originally based upon Skinner's radical behaviorism (1953). Radical behaviorism states that behaviorism should focus only on objective external stimuli and overt behavior. This Skinnerian approach emphasizes direct observations of clients, precise definitions, and controlled experimentation. In effect, Skinner stressed such stringent experimentation that theorizing about behavior was unnecessary. Essentially, Skinner emphasized establishing a close link between therapy (independent variable) and behavior (dependent variable). Skinner's approach is the only behavioral model that does not stress cognition.

The second model of behavioral therapy presented by Corey (1991) and Corsini and Wedding (1989) is the Neobehaviorist Stimulus-Response Approach. This approach was primarily based on the work of psychologists Wolpe (1973) and Eysenck (1985). Unlike the applied behavioral model, this approach indicates that cognitive (thinking) processes affect clients.

A third model discussed by Corey (1991) and Corsini and Wedding (1989) is Cognitive Behavior Modification. This model stresses the importance of cognition (thinking and other symbolic processes) in the acquisition and maintenance of abnormal behaviors. For example, this model would suggest that the self-statements and cognitive strategies for studying academic subjects contribute to academic success or failure of academic at-risk African-American students. This approach is designed to restructure a student's cognitive process. Ellis (1962) is the founder of cognitive-behavior

modification; Beck (1976) and Meichenbaum (1977) are two theorists who subscribe to this theoretical view.

The fourth model of behavioral therapy illustrated by Corey (1991) and Corsini and Wedding (1989) is Social Learning Theory. This model, based on the work of Bandura (1986), blends components from the three previously described theories. Social Learning Theory stresses that classroom behavior is greatly influenced by observational learning, or learning based on observing others. Currently, Social Learning Theory applies a philosophy called reciprocal determinism, this view postulates that personal, behavioral, and situational factors are constantly interacting to determine what a student feels, thinks, and does. Actually, reciprocal determinism presupposes that students, the classroom, and behavior interact simultanesouly and have mutual ability to influence each other.

The last model of behavior therapy described by Corey (1991) and Corsini and Wedding (1989) is Multimodal Behavior Therapy (MBT). MBT is an eclectic form of behaviorism. This model assesses seven interacting modalities within students called the BASIC-ID (Behavior, Affect, Sensation, Imagery, Cognition, Interpersonal relationships and Drugs. MBT evaluates the strengths and weaknesses within each student's modalities. This is an adaptive treatment model designed to accommodate students' idiosyncratic needs.

Behavior therapy has changed drastically in the last 20 years (Corey, 1991; Corsini & Wedding, 1989). Skinner's radical behaviorism is alive, but the trend in

therapy or counseling has skewed toward social learning and cognitive-behavioral approaches. Cognitive-behavioral approaches propose that a student's thoughts (cognition), emotions (affect), and behavior (actions) cannot be treated separately because they are interacting processes.

What does it mean when a student is described as "at-risk?" We distinguish two forms of at-risk: general and academic. When it is said that a student is *generally* at-risk, he or she could be at-risk from many factors, such as drugs, AIDS, suicide, and so on; however, *academically* at-risk has some specific definitions. For example, Farrell, Sapp, and Pumphrey (1993), and Farrell, Sapp, Johnson, and Pollard (in press) defined the academically at-risk student as a student who is one or more years behind his or her age or grade level in mathematics or reading skills.

For an African-American student, factors such as being an adjudicated delinquent, becoming a parent, or dropping out of school place him/her at-risk. African-American students who are at-risk require the same assistance as students with special educational needs. In their early years, many of them do not obtain adequate basic skills. Research suggests that it is possible to prevent African-American students from becoming academically at-risk by providing interventions and preventions at the elementary school level (Slavin, Karweit, & Madden, 1989). Slavin et al. suggest that African-American students who are at-risk for academic failure can attain adequate basic skills if highly skilled, one-on-one tutoring is provided for as long as is necessary. Sapp (1993) has shown that at-risk students experience heightened amounts of test anxiety and stress.

Elsewhere, Sapp (1991, 1992, in press a, b) provides strategies to treat general anxiety and test anxiety.

Sapp and Farrell (in press) described how cognitive-behavioral interventions can be employed to help at-risk and special education students improve academic achievement. In sum, they demonstrated how teachers can apply cognitive-behavioral strategies within the classroom to help academically at-risk and special education students. The purpose of this study is to present empirical evidence supporting the relationship between cognitive-behavioral therapy and achievement with African-American middle school at-risk students.

## METHOD

### Subjects

Sixty students, all identified as being academically at-risk in a junior high school located within a midwestern city, participated in this study. The following state guidelines were used to operationally define academically at-risk: (1) students absent from school for more than 20 days in a school year, (2) pupils one or more years behind their age or grade level in reading and/or mathematics, and (3) students one or more years behind their age or grade level in the number of credits earned. All students participating in the current study met the state criteria and were African-American students.

The median income of the families of these participants was below $8,000. All students were in the seventh or eighth grade. There was approximately an equal number of male and female students.

The purpose of the current study, to investigate the effects of cognitive-behavioral interventions on improving academic achievement, was explained. Following the explanation, interested students were pretested and posttested on the following variables: (1) grade point averages (GPAs), (2) number of days absent, and (3) number of times tardy.

After students were pretested on the three variables, they were randomly assigned to one of four therapists trained to deliver cognitive-behavioral interventions. Statistical tests demonstrated that students were equivalent on all three pretests.

## Research Design

Based upon the pilot study by Sapp (1990a, 1990b), a randomized pretest/posttest design was used to measure the relationship between cognitive-behavioral therapy and the improvement of African-American middle school students' grade point averages, number of days absent, and number of days tardy. Before cognitive-behavioral therapy, African-American middle school students were pretested and posttested on the following three variables: (1) grade point averages (GPAs), (2) number of days absent, and (3) number of times tardy. To control for initial differences among subjects, the pretests measures were used as covariates. We hypothesized that pretest measures on the

aforementioned variables would differ after cognitive-behavior therapy. Specifically, we hypothesized an increase in GPAs and a reduction in the number of days absent and days tardy.

## Treatment Procedures

One week after pretesting, cognitive-behavioral interventions were implemented. Students received eight weekly sessions of cognitive interventions, with each session lasting approximately 30 minutes. Two treatment scripts were utilized to operationally define and standardize cognitive-behavioral interventions. (This study was actually a pilot for a larger study [Sapp, 1993].) This ensured that each student received the same treatment or independent variable.

As previously stated, two treatment scripts were used to standardize cognitive-behavioral interventions. The first script consisted of four sessions explaining and demonstrating how to apply cognitive-behavioral interventions in the classroom. During Session One, students were given an explanation of cognitive-behavioral intervention. It was explained to them that cognitive-behavioral interventions are a group of eclectic techniques that combine strategies from both cognitive and behavioral psychology. It also was explained that a leading psychologist (Ellis, 1962) developed cognitive-behavioral interventions. The first treatment session emphasized how a student's thoughts, emotions, and actions occur simultaneously. We indicated that this is what is

meant by an interactionist framework (Dryden, 1987). This session ended by making sure that students understood the premises of cognitive-behavioral interventions.

Session Two was used to discuss four of the seven beliefs that Ellis (1985) stated are internalized by individuals at a societal level and result in self-defeating behaviors. These beliefs are as follows:

1. The idea that there is a dire need to be loved and approved by significant members of one's community. Students were told that approval was desirable but not necessary for individual happiness. This concept was used to teach students the cognitive difference between preferences and "true biological needs."

2. The idea that the past is the only determinant of one's present behavior. It was suggested to students that while the past was important, but that it did not have an indefinite impact on current behavior or academic self-concept.

3. The idea of avoiding difficult life situations rather than facing them. It was suggested that to improve academically, one has to take responsibility for studying and to put in the required time and effort in order to see the benefits, which can result in a greater sense of academic self-concept.

4. The idea that it is terrible when things do not turn out the way we had hoped. This belief was used to teach students how to delay gratification and to tolerate frustration without becoming immobile and helpless.

Session Three was used to show students how cognitions (thoughts) are connected to negative evaluations of external events, a self-defeating view of the future, and self-

defacement. Three cognitive errors or cognitive distortions from Beck (1976) were presented and analogies were used to show how these errors can affect academic self-concept.

The following three cognitive distortions were discussed:

1. **Dichotomous cognition** - thinking about things in narrow terms without taking possible gradations into account.

2. **Magnification and minimization** - glossing over or overestimating or underestimating the importance of a situation. Students were told how this can distort and grossly exaggerate interpretations.

3. **Overgeneralization** - drawing a general conclusion based on a single negative or positive incident.

Session Four was used to teach the **A-B-C-D-E** and **F** aspects of Rational Emotive Counseling (Dryden, 1987; Dryden & DiGiuseppe, 1990; Ellis, 1985) employing school-related and age appropriate illustrations. **A** was described as an event, behavior, attitude, or distorted fact held by an individual. **B** is the person's belief about **A**, which largely causes **C**–the emotional reaction. We placed emphasis on how Ellis (1985) distinguishes between rational and irrational beliefs. We took examples from Dryden (1987), who states that rational beliefs are those expressed as preferences, desires, wants, and likes that are not absolute. In contrast, it was stressed that irrational beliefs are absolute and dogmatic in nature. Similarly, irrational beliefs express musts, shoulds, oughts, and so

on. Students were told that rational beliefs produce positive coping responses and that irrational beliefs result in self-defeating responses.

After discussing the **A-B-C** components of Rational Emotive Counseling with students, the researchers demonstrated applications of **D**--disputing of irrational beliefs. **D** involved demonstrating to students how to employ the scientific method to challenge irrational beliefs and to determine if support exists for such beliefs. We also showed students how to produce new **E**s (effects) and **F**s (feelings). Finally, we stressed to students that constant work and practice were necessary to maintain more rational ways of thinking.

Sessions Five through Eight were based on a study skills treatment script (Sapp, 1993). During session five, students were given a rationale for effective study. Moreover, students were shown how to monitor study behavior.

In Session Six, students were shown how to shape study behavior. The following six points were discussed in regard to effective study behavior:

1. Good students set aside a certain amount of time to study daily.

2. Good students associate the completion of study assignments with enjoyable activities. Essentially, once specific assignments are completed, effective students reward themselves.

3. Effective learners study alone. They study later in groups only to review material they have already learned.

4. Effective learners study one subject for at least 45 minutes, rather than skipping to different subjects.

5. Effective learners start working on assignments long before they are due, so they will have enough time to do their best.

6. Effective learners exercise at least 2-3 times per week.

During Session Seven, students were counseled in the SQ3R method of studying, which is a five-step reading process of (1) scanning, (2) questioning, (3) reading, (4) reciting, and (5) reviewing study material. Students used their actual reading and mathematical texts during this phase.

In Session Eight, students were counseled on how to record lecture notes and how to prepare for examinations. With regard to taking lecture notes, the following eight points were covered:

1. Many one-hour lectures contain specific points. Look for these while your teacher is lecturing or discussing the subject matter.

2. Teachers usually present a broad overview of material covered, followed by an outline of how the material will be covered Also, teachers usually state the main points and label them as important.

3. If you do not understand what your teacher is discussing, it is your job as an effective student to aggressively ask questions. For example, "Where are we going?" or "What is the major point?" Teachers will usually find this flattering and interpret it as a sign of interest.

4. Expect your teacher's personal interests to appear on exams.

5. Discover your teacher's philosophy of testing. This will help you to prepare for examinations.

6. When your teacher gives handouts or writes on the board, take special notes since this information may appear on the exam.

7. Organize lecture notes once they are taken.

8. Skim over lecture notes after they are taken, write a few sentences summarizing the main points, and make a note of any information that needs clarification during the next class.

We covered the following points in terms of examination preparation: (1) constantly review study material and (2) space reviews over short time periods, rather than trying to study everything at one time.

Sixty at-risk African-American junior high school students received eight sessions (8 weeks) of cognitive-behavioral interventions. Follow-up data were obtained two weeks after treatment sessions ended.

## RESULTS

As a frame of reference for this section, the means and standard deviations for pretests, posttests, and follow-up assessment measures are presented in Table 1. This randomized pretest/posttest design meets the assumptions of analysis of covariance (ANCOVA). The ANCOVA performed on pretest/posttest changes on GPAs, number of

days absent, and number of days tardy indicate statistically significant changes for each variable; the results are $F = 9.73$, $p < .001$. Pretests, posttests, and follow-up means for GPAs are 1.23, 2.26, and 2.10. For number of days absent, the respective pretests, posttests, and follow-up means are 10.11, 5.23, and 5.71. In terms of times tardy, 6.17, 2.99, and 3.23 are respectively the corresponding pretests, posttests, and follow-up means.

**Posttest Follow-up Analysis**

In order to determine the effects of cognitive-behavioral interventions at a two-week follow-up, a repeated measures t-test was performed that examined changes on the posttests in comparison to follow-up data. The results were as follows: $t = 1.34$, $p > .05$ for the GPAs variable; $t = 1.36$, $p > .05$ for the number of days absent variable; and $t = 1.33$, $p > .05$ for the number of times tardy variable. These results suggest that the treatments gains were maintained at a two-week follow-up,

## DISCUSSION

This study empirically demonstrated a relationship between cognitive-behavioral therapy and improvements in African-American middle school students' GPAs, number of days absent, and number of times tardy. Positive changes hypothesized to be a result of cognitive-behavioral therapy were maintained at a two-week follow-up. Consequently, students maintained their improvements on GPAs, number of times

absent, and number of times tardy. Our study substantiated the path analysis performed on data obtained by Sapp (1990a). Sapp found a statistically significant relationship between academic self-concept and achievement. We hypothesized that since academic self-concept has many cognitive and behavioral features, it could be affected by cognitive-behavioral therapy. We did find a significant relationship between cognitive-behavioral therapy and GPA, number of days absent, and number of times tardy. We believe the moderating variable between cognitive-behavioral therapy and the aforementioned variables is academic self-concept. Based upon this research the theory, we proposed the following model as an explanation of how cognitive-behavioral therapy impacts self-esteem, academic self-concept, and achievement.

**PATH MODEL**

A Proposed Relationship Between Cognitive-Behavioral Therapy,

Self-Esteem, Academic Self-Concept, and Achievement

Cognitive-Behavioral Therapy → Self-Esteem → Academic Self-Concept → Achievement

To sum, we have not attempted to prove that cognitive-behavioral therapy causes improvement in achievement with African-American middle school students who are at-risk for academic failure; however, we did find a relationship between cognitive-behavioral therapy and achievement, with a hypothesized moderating variable we believe is academic self-concept. This study supports similar features that were found in

at-risk high school students (Farrell, Sapp, Johnson, & Pollard, in press). Sapp and Farrell (in press) described how school systems can establish training seminars so that teachers can learn about these cognitive-behavioral interventions and implement them within the classroom. It would be presumptuous to assume that cognitive-behavioral therapy will erase all the difficulties that African-American middle students experience in terms of achievement, but for academic remediation these students would benefit exponentially with cognitive-behavioral therapy as a starting point, followed by massive school reform. We recognize that additional research is needed to disentangle the complex relationship between cognitive-behavioral therapy and academic achievement with African-American middle school students. Research is needed that investigates such factors as test anxiety, general anxiety, stress, and poverty and their relationship to the achievement of African-American middle school students.

**References**

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.

Beck, A. T. (1976). *Cognitive therapy and emotional disorders*. New York: Ballentine.

Corey, G. (1991). *Theory and practice of counseling and psychotherapy* (4th Ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.

Corsini, R. J., & Wedding, D. (Eds.). (1989). *Current psychotherapies* (4th Ed.). Itasca, IL: F. E. Peacock.

Dryden, W. (1987). *Counselling individuals: The rational-emotive approach*. London: Taylor and Francis.

Dryden, W., & DiGiuseppe, R. (1990). *A primer on rational-emotive therapy*. Champaign, IL: Research Press.

Ellis, A. (1962). *Reason and emotion in psychotherapy*. New York: Lyle Stuart.

Ellis, A. (1985). *Overcoming resistance: Rational-emotive therapy with difficult clients*. New York: Springer Publishing Company.

Eysenck, H. J. (1985). Incubation theory of fear/anxiety. In S. Reiss & R. Bootzin (Eds.), *Theoretical issues in behavior therapy* (pp. 67-85). Orlando, FL: Academic press.

Farrell, W. C., Sapp, M., Johnson, J. H., & Pollard, J. L. (in press). Assessing college aspirations among at-risk high school students: A principle component analysis. *The High School Journal*.

Farrell, W. C., Sapp, M., & Pumphrey, R. M. (1993, June 23). At-risk students and urban public schools. *Milwaukee Courier*, p. 14.

Kendall, C. (1984). Cognitive-behavioral self-control therapy for children. *Journal of Child Psychology and Psychiatry, 25*(2), 173-179.

Meichenbaum, D. (1977). *Cognitive behavior modification: An integrative approach.* New York: Plenum.

Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design, and analysis: An integrated approach.* Hillsdale, NJ: Lawrence Erlbaum.

Sapp, M. (1990a). Psychoeducational predictors of achievement for at-risk Milwaukee Public School junior high school students. *The Wisconsin Counselor, 124*(2), 10-15.

Sapp, M. (1990b). Psychoeducational correlates of junior high at-risk students. *The High School Journal, 73*(4), 232-234.

Sapp, M. (1991). Hypnotherapy and test anxiety. *The Australian Journal of Clinical Hypnotherapy and Hypnosis, 12*(1), 25-33.

Sapp, M. (1992). Relaxation and hypnosis in reducing anxiety and stress. *The Australian Journal of Clinical Hypnotherapy and Hypnosis, 13*(2), 39-55.

Sapp, M. (1993). *Test anxiety: Applied research, assessment and treatment interventions.* Lanham, MD: University Press of America.

Sapp, M. (in press a). The effects of guided imagery in reducing the worry and emotionality of test anxiety. *Journal of Mental Imagery.*

Sapp, M. (in press b). Cognitive-behavioral counseling: Applications for African-American middle school students who are academically at-risk. *Journal of Instructional Psychology.*

Sapp, M., & Farrell, W. C. (in press). Cognitive-behavioral interventions: Applications for academically at-risk and special education students. *Preventing School Failure.*

Skinner, B. F. (1953). *Science and human behavior.* New York: Farrar, Strauss.

Slavin, R. E., Karweit, N. L., & Madden, N. A. (1989). *Effective programs for students at-risk.* Needham Heights, MA: Allyn and Bacon.

Vogt, W. P. (1993). *Dictionary of statistics and methodology.* Newbury Park, CA: Sage Publications.

Wolpe, J. (1973). *The practice of behavior therapy.* New York: Pergamon Press.

Table 1

Means and Standard Deviations for Pretests, Posttests, and Follow-up Assessments

| Variable | Pre- | Post- | Follow-up |
|---|---|---|---|
| GPA | 1.23<br>(.78) | 2.26<br>(.77) | 2.10<br>(.75) |
| No. of Days Absent | 10.11<br>(3.87) | 5.23<br>(1.77) | 5.71<br>(1.91) |
| No. of Times Tardy | 6.17<br>(2.45) | 2.99<br>(1.68) | 3.23<br>(1.79) |

Note: Standard deviations are in parentheses.

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